

REMARKS

Claims 1, 10-11, 14-15, 18, 21, 23-24, 26-27, 29, 32, 35, 39, 41-42, and 45 have been amended. Claims 5, 22, and 36 have been cancelled. No new claims have been added. Claims 1-4, 6-21, 23-35, and 37-45 are pending.

Claim Rejections - 35 USC § 112

The Examiner rejected claims 21-34 under 35 USC § 112, second paragraph, as indefinite. Specifically, the Examiner asserted that claims 21 and 27 are indefinite because the means for performing the claimed functions lack corresponding structure. The Examiner further asserted that the specification does not disclose any particular structure(s) by which the means plus function claims can be implemented. This rejection is respectfully traversed.

This rejection is traversed on the grounds that, first, there is no requirement to place the structure of a means within a means plus function claim element. To the contrary, placing structural language within a means element creates confusion whether or not the element should be interpreted in accordance with 35 USC § 112, sixth paragraph. Second, structure corresponding to the means elements of claims 21 and 27 is clearly described in the specification. The Applicant notes that there is no requirement for the specification to specifically identify the means as such so long as the structure is evident to a person of skill in the art. Specifically, MPEP 2181(II), 2nd paragraph, reads, in part:

The proper test for meeting the definiteness requirement is that the corresponding structure (or material or acts) of a means (or step)-plus-function limitation must be disclosed in the specification itself in a way that one skilled in the art will understand what structure (or material or acts) will perform the recited function.

Claims 21-26

Independent claim 21 has been amended to clarify the recitation of the claimed subject matter. With one exception, the amendment eliminated means plus function elements. The remaining means plus function element, “means for measuring performance metrics of the system under test for the stateful TCP connections under load of the simulated realistic mix of network traffic” is well described in the specification. Specifically, paragraph 0026 of the specification, as filed, states “The TCP AMP controllers 112 receive performance metrics regarding stateful TCP connections maintained by the TCP/IP stacks 108 and use this information to modify the behavior of the simulated stateless TCP connections. Performance metrics may be obtained directly from the TCP/IP stacks 108 or from an external measurement device 114, such as a packet sniffer. Exemplary performance measurements that may be used include retransmission rate, fragmentation, packet sizes, drop/reset rates, and other information that requires stateful TCP session handling.” Paragraph 0030 further states “In FIG. 2, the test device 102 includes a processor 200 and a processor memory 202. Components 200 and 202 may be used to run the TCP/IP stacks 108 and the TCP AMP controllers 112.”

Based on the specification, a person of average skill in the art would understand that the “means for measuring performance metrics of the system under test for the stateful TCP connections” may be either TCP stack software operating on a processor embedded within the test device or an external measurement device such as a packet sniffer. Withdrawal of the rejection of independent claim 21 and depending claims 22-26 is solicited.

Claims 27-34

Independent claim 27 contains three means plus function elements. The structure corresponding to these elements is identified in the following table:

Claim element	Corresponding structure
first means for simulating real-world network traffic on the communications network	Programmable stateless packets processors. Specifically, paragraph 0030 teaches "...metrics can be used to change the behavior of the stateless TCP connections implemented by the programmable stateless packet processors 110 to more closely simulate a realistic (i.e. real-world) mix of traffic."
second means for generating stateful TCP connections across the communications network with the system under test	TCP/IP stack software 108 executed by a processor 200 embedded within the test device (paragraph 0026).
third means for measuring performance of the system under test in supporting the stateful TCP connections from the second means in the presence of the simulated traffic on the communication network from the first means	Either TCP stack software operating on a processor embedded within the test device or an external measurement device such as a packet sniffer (paragraphs 0026, 0030).

Based on the specification, a person of average skill in the art would understand what structure performs the recited functions. Withdrawal of the rejection of independent claim 27 and depending claims 28-34 is solicited.

Claim Rejections - 35 USC § 112

The Examiner rejected claims 15, 21, and 35 under 35 USC § 112, second paragraph, as indefinite for not having adequate antecedent basis for all claim elements. The claims have been amended to ensure antecedent basis for all claim elements. Withdrawal of the rejection is solicited.

Claim Rejections - 35 USC § 103

The Examiner rejected claims 1-45 under 35 USC § 103(a) as unpatentable over *Van Gerrevink et al.* (US 2003/0012141 A1) in view of *Beanland* (US Patent No. 6,028,847). This rejection is respectfully traversed.

Claims The rejection of claims 1-45 is respectfully traversed on the grounds that *Van Gerrevink* and *Beanland*, individually and in combination, fail to expressly or inherently describe each and every element of the claims. Independent claims 1, 15, 21, 27, and 35 have been amended to recite that the claimed method or apparatus engages in stateful TCP connections with a system under test concurrently with simulating a realistic mix of network traffic, and that the claimed method or apparatus measures the performance of the system under test for the stateful TCP connections under load of the simulated network traffic. Specifically, claims 1, 15, and 21 include the element “engaging in stateful TCP connections with the system under test concurrently with the step of simulating the realistic mix of network traffic on the communications network” and “measuring performance of the system under test for the stateful TCP connections under load of the simulated network traffic from the device”. Claims 27 and 35 recite similar elements. Since these elements are not disclosed by *Van Gerrevink* and/or *Beanland*, it is respectfully submitted that this rejection should be withdrawn.

1. *Van Gerrevink* and *Beanland* do not disclose engaging in stateful TCP connections with the system under test concurrently with simulating a realistic mix of network traffic.

Van Gerrevink describes a traffic stream generator to generate a traffic stream that simulates a realistic mix of network traffic. The traffic stream can include a variety of traffic classes, or packet types. Additionally, addresses and other fields within generated packets can be varied. *Van Gerrevink* is an example of a prior art traffic generator as described in paragraph 0011 of the application. The traffic stream generator of *Van Gerrevink* may be suitable for “simulating the realistic mix of network traffic” as recited in the independent claims. However, as acknowledged in the Office action, *Van*

Gerrevink does not explicitly disclose the traffic stream generator receiving packets or sending packets in response to received packets. The Office action relies on *Beanland* to teach this element.

Beanland describes a multiple stream traffic emulator. At col. 7, lines 52-57, *Beanland* describes cells that may be generated within the traffic emulator”

The cells can contain real time data in that a processing element contained in the multiple stream traffic emulator 1 produces cell data as a function of conditions extant at the present 55 time. For example, a handshake protocol can be used to test the integrity of the link between the multiple stream traffic emulator 1 and the equipment under test 106.

While a TCP connection involves a handshake, the handshake disclosed by *Beanland* is not necessarily a TCP connection. Many “handshake protocols” do not use TCP connections (for example, the well-known “ping” function is not a TCP connection). Further, *Beanland* only describes a handshake protocol used to test the integrity of the link between the traffic emulator and the equipment under test, as opposed to testing the performance of the system under test for the TCP connections. Clearly, *Beanland* falls far short of disclosing engaging in TCP connections as recited in the claims.

2. *Van Gerrevink* and *Beanland* do not disclose measuring performance of the system under test for the stateful TCP connections under load of the simulated network traffic from the device.

The office action relies on *Van Gerrevink* to teach measuring performance of a system under test at paragraphs 0037, 0067, and 0075. Paragraph 0037 describes that the traffic emulator generates traffic that is conveyed to equipment under test. Paragraph 0067 describes that the generated traffic may simulate realistic Internet traffic. Paragraphs 0073-0076 describe the test system shown in figure 6, which includes a tester PC 610 executing “test session” software 670 that apparently controls a plurality of test modules 680. Presumably, a multiple stream traffic emulator is contained within each of the test modules 680. Paragraphs 0078-0081 describe how the test system

can be used to conduct a variety of tests. Thus both *Van Gerrevink* and *Beanland* describe generating a realistic mix of network traffic for the purpose of testing equipment. However, *Van Gerrevink* and *Beanland* do not describe that the performance of a system under test is measured for stateful TCP connections overlaid on the realistic network traffic, as recited in the claims.

In conclusion, *Van Gerrevink* and *Beanland*, in combination, fail to teach or suggest at least two elements of independent claims 1, 15, 21, 27, and 35. Thus it is respectfully submitted that all independent and dependent claims are allowable. Withdrawal of the rejection is solicited.

Disclaimers Relating to Claim Interpretation and Prosecution History Estoppel

Any reference herein to “the invention” is intended to refer to the specific claim or claims being addressed herein. The claims of this application are intended to stand on their own and are not to be read in light of the prosecution history of any related or unrelated patent or patent application. Furthermore, no arguments in any prosecution history relate to any claim in this application, except for arguments specifically directed to the claim.

Conclusion

It is submitted that the independent and dependent claims include other significant and substantial recitations which are not disclosed in the cited references. Thus, the claims are also patentable for additional reasons. However, for economy the additional grounds for patentability are not set forth here.

The Examiner’s consideration of the references of record is appreciated. It is presumed that the Examiner has considered the entire disclosure of each of the references of record with respect to anticipation (individually) and obviousness (in any combination).

In view of all of the above, it is respectfully submitted that the present application is now in condition for allowance. Reconsideration and reexamination are respectfully requested and allowance at an early date is solicited.

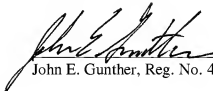
The Examiner is invited to call the undersigned registered practitioner to answer any questions or to discuss steps necessary for placing the application in condition for allowance.

References to "Applicant" herein are to the assignee of record, which the undersigned represents. An assignment has been recorded, and a Statement of Ownership and a General Power of Attorney have also been filed. Thus, the rights of the original Applicants/inventors have been excluded.

With respect to this filing, the Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 503456. Please consider this paper to be a petition for extension of time, if necessary.

Respectfully submitted,

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John E. Gunther, Reg. No. 43,649

SoCal IP Law Group LLP
310 N. Westlake Blvd., Suite 120
Westlake Village, CA 91362
Telephone: 805/230-1350
Facsimile: 805/230-1355
email: info@socalip.com